

INVENTOR: INCH et al.

TITLE: IMPROVED POT AND PAN WASHING MACHINE

CLAIMS

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is as follows:

1. A pot and pan washing machine comprising:
 - 2 a wash tank including bottom wall, a rear wall, a front wall and two side walls
 - 3 extending upwardly from said bottom wall;
 - 4 an intake port in one of said side walls, said intake port being located adjacent to said
 - 5 bottom and rear walls;
 - 6 an outlet manifold on said rear wall;
 - 7 a parallel flow pump including:
 - 8 a pump inlet associated with said intake port, said pump inlet having an intake
 - 9 path in a first direction, and
 - 10 a pump outlet associated with said outlet manifold, said pump outlet having an
 - 11 outlet path in a second direction, said second direction being generally
 - 12 parallel to said first direction;
 - 13 a perforated intake manifold positioned to cover said intake port; and
 - 14 at least one jet nozzle in association with said outlet manifold to expel at a
 - 15 predetermined angle a jet stream of fluid from said outlet manifold.

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1 2. The pot and pan washing machine as claimed in Claim 1 wherein said parallel flow
2 pump is self-draining.

1 3. The pot and pan washing machine as claimed in Claim 1 wherein said intake manifold
2 is located adjacent said rear wall.

1 4. The pot and pan washing machine as claimed in Claim 1 wherein said intake manifold
2 comprises:

3 an upper portion extending away from said rear wall towards said front wall at a
4 predetermined downward angle towards said bottom wall, said upper portion is
5 positioned within a portion of the jet stream of said jet nozzle and said
6 predetermined downward angle of said upper portion of said intake manifold
7 corresponds to the predetermined angle of the jet stream of said nozzle.

1 5. The pot and pan washing machine as claimed in Claim 4 wherein said jet nozzle
2 comprises:

3 a directing tube flush connected to said rear wall and extending into said outlet
4 manifold.

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1 6. The pot and pan washing machine as claimed in Claim 5 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

1 7. The pot and pan washing machine as claimed in Claim 1 wherein said jet nozzle
2 comprises:

3 a directing tube flush connected to said rear wall and extending into said outlet
4 manifold.

1 8. The pot and pan washing machine as claimed in Claim 7 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

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1 9. A self-draining pump for use in a pot and pan washing machine, said pump
2 comprising:

3 a housing, said housing including:

4 an intake chamber and a volute,

5 an intake port located in said chamber, a portion of said intake port comprising
6 a lower most position of said housing,

7 a drainage passage extending from a lower most position of said volute to said
8 chamber, and

9 an outlet port located in said volute;

10 a motor; and

11 an impeller within said housing and connected to said motor for passing a fluid between
12 said chamber and said volute.

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1 10. A self-draining pump for use in a pot and pan washing machine, said pump

2 comprising:

3 a housing, said housing including:

4 an intake chamber and a volute,

5 an intake port located in one of said chamber and said volute, a portion of said
6 intake port comprising a lower most position of said housing,

7 a drainage passage extending from a lower most position of said one of said
8 chamber and said volute to said an other of said chamber and said
9 volute, and

10 an outlet port located in said other of said chamber and said volute;

11 a motor; and

12 an impeller within said housing and connected to said motor for passing a fluid between
13 said chamber and said volute.

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- 1 11. A parallel flow pump for use in a pot and pan washing machine, said pump
- 2 comprising:
 - 3 a housing, said housing including:
 - 4 a chamber and a volute,
 - 5 an intake port located in one of said volute and chamber,
 - 6 an outlet port located in an other of said volute and chamber, said outlet port
 - 7 having a direction parallel to an inlet direction of said intake port, and
 - 8 a cylindrical passage connecting said chamber to said volute;
 - 9 an impeller located within said cylindrical passage; and
 - 10 a motor including a shaft engaging said impeller for rotation thereof.
- 1 12. The parallel flow pump as claimed in Claim 11 further comprising a generally annular
- 2 seal plate positioned between said motor and said housing.
- 1 13. The parallel flow pump as claimed in Claim 12 wherein said seal plate further
- 2 comprises an anti-rotation member extending perpendicularly from said seal plate and into said
- 3 housing.
- 1 14. The parallel flow pump as claimed in Claim 11 further comprising an annular shaft seal
- 2 positioned along said shaft between said motor and said impeller.

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1 15. The parallel flow pump as claimed in Claim 11 wherein said impeller is positioned
2 within said volute.

1 16. The parallel flow pump as claimed in Claim 15 wherein said chamber includes said
2 intake port, said volute includes said outlet port, and said impeller comprises a shaft-side
3 suction impeller.

1 17. The parallel flow pump as claimed in Claim 11 further comprising:
2 a generally annular seal plate positioned between said motor and said housing for
3 connecting said motor to said housing; and
4 an annular shaft seal positioned along said shaft between said impeller and said seal
5 plate;

6 wherein said impeller is connected to said shaft, such that said motor, said seal plate,
7 said shaft seal and said impeller are capable of removal from said housing as a
8 single unit.

1 18. The parallel flow pump as claimed in Claim 11 further comprising a drainage passage
2 extending between said chamber and said volute.

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- 1 19. A pot and pan washing machine comprising:
- 2 a wash tank including a bottom wall, a rear wall, a front wall and two side walls
- 3 extending upwardly from said bottom wall;
- 4 an intake port in one of said side walls, said intake port being located adjacent to said
- 5 bottom and rear walls;
- 6 an outlet manifold on said rear wall;
- 7 a pump including:
- 8 a pump inlet associated with said intake port, and
- 9 a pump outlet associated with said outlet manifold;
- 10 at least one jet nozzle in association with said outlet manifold to expel at a
- 11 predetermined angle a jet stream of fluid from said outlet manifold; and
- 12 a perforated intake manifold within said wash tank positioned within a portion of the jet
- 13 stream of said jet nozzle and positioned to cover said intake port, said intake
- 14 manifold including an upper portion extending in a direction generally
- 15 originating from said rear wall towards said front wall at a predetermined
- 16 downward angle towards said bottom wall, and said predetermined downward
- 17 angle of said upper portion of said intake manifold corresponds to the
- 18 predetermined angle of the jet stream of said nozzle.

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1 20. The pot and pan washing machine as claimed in Claim 19 wherein said upper portion
2 of said intake manifold includes perforations.

1 21. The pot and pan washing machine as claimed in Claim 19 wherein said jet nozzle
2 comprises:

3 a directing tube flush connected to said rear wall and extending into said outlet
4 manifold.

1 22. The pot and pan washing machine as claimed in Claim 21 wherein said directing tube is
2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear
3 wall.

1 23. The pot and pan washing machine as claimed in Claim 19 wherein said upper portion
2 of said intake manifold abuts said rear wall.

1 24. The pot and pan washing machine as claimed in Claim 19 wherein said intake manifold
2 further comprises a lower portion, said lower portion extending perpendicularly from said
3 upper portion, said lower portion abutting said bottom wall.

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- 1 25. The pot and pan washing machine as claimed in Claim 24 wherein said lower portion
2 of said intake manifold is perforated.

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1 26. A pot and pan washing machine comprising:

2 a wash tank including a bottom wall, a rear wall, a front wall and two side walls

3 extending upwardly from said bottom wall;

4 an intake port in one of said side walls, said intake port being located adjacent to said

5 bottom and rear walls;

6 an outlet manifold on said rear wall;

7 a pump including:

8 a pump inlet associated with said intake port, and

9 a pump outlet associated with said outlet manifold;

10 at least one jet nozzle in association with said outlet manifold to expel at a

11 predetermined angle a jet stream of fluid from said outlet manifold, said jet

12 nozzle including:

13 a directing tube flush connected to said rear wall and extending into said

14 outlet manifold; and

15 a perforated intake manifold within said wash tank positioned to cover said intake port.

1 27. The pot and pan washing machine as claimed in Claim 26 wherein said directing tube is

2 connected to said rear wall via an outer ring that is flush mounted to an inner side of said rear

3 wall.

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1 28. The pot and pan washing machine as claimed in Claim 26 wherein said jet nozzle
2 further comprises a semi-circular splash guard protruding from said outer ring in a generally
3 orthogonal direction.

1 29. A non-welded field joint for connection of a first sink portion to a second sink portion
2 to form a single unit, the first sink portion having a generally flat side abutted flush against a
3 generally flat side of the second sink portion, said field joint comprising:

4 a hemmed edge located along an edge of the generally flat side of the first sink portion;
5 a lip located along an edge of the generally flat side of the second sink portion, said lip
6 extending in an outward direction from said edge of the second sink portion,
7 said lip capable of surrounding said hemmed edge of the first sink portion; and
8 an inwardly extending jog located generally near said edge of the generally flat side of
9 one of the first or second sink portions.

1 30. The non-welded field joint as claimed in Claim 29 wherein said jog is located on the
2 generally flat side of the first sink portion and said jog positions said hemmed edge generally
3 inward of the generally flat side of the first sink portion.

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1 31. The non-welded field joint as claimed in Claim 29 wherein said jog is located on the
2 generally flat side of the second sink portion and said jog positions said lipped edge generally
3 inward of the generally flat side of the second sink portion.

1 32. A method of connecting a first sink portion to a second sink portion to form a single
2 unit, the first sink portion having a generally flat side abutted flush against a generally flat side
3 of the second sink portion, said method comprising the steps of:

4 hemming an edge of the generally flat side of the first sink portion;

5 forming a lip in an edge of the generally flat side of the second sink portion;

6 forming an inwardly extending jog in the generally flat side of one of the first or
7 second sink portion; and

8 positioning said hemmed edge of the first sink portion within said lip of the second sink
9 portion such that the generally flat side of the first sink portion is held in tight
10 engagement with the generally flat side of the second sink portion.

1 33. The method as claimed in Claim 32 further comprising the step of filling said lip with a
2 sealant to eliminate any gap between the generally flat side of the first sink portion and the
3 generally flat side of the second sink portion created by said inwardly extending jog.

1 34. The method as claimed in Claim 33 wherein said sealant comprises silicon.

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- 2 35. The method as claimed in Claim 32 further comprising the step of placing a decorative
3 trim piece between the first sink portion and the second sink portion.
- 1 36. The method as claimed in Claim 35 further comprising the step of securing said
2 decorative trim piece to at least one of said first or second sink portions with tape.
- 1 37. The method as claimed in Claim 35 further comprising the step of filling any gaps
2 between said decorative trim piece and said first and second sink portions with a sealant.
- 1 38. The method as claimed in Claim 37 wherein said sealant comprises silicon.

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1 39. A method of automatically cleaning an intake manifold in a pot and pan washing
2 machine, said method comprising the steps of:

3 positioning a perforated portion of an intake manifold within at least a portion of a jet
4 stream produced by a jet nozzle within the washing machine; and
5 allowing said jet stream to blow a debris away from said perforated portion.

1 40. The method as claimed in Claim 39 further comprising the step of setting an angle of
2 said perforated portion to correspond to an angle of said jet stream emanating from said
3 nozzle.